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PROCEEDINGS

OF THE

UNITED STATES

NAVAL INSTITUTE.

THE AUTOBIOGRAPHY OF

COMMODORE CHARLES MORRIS, U. S. N.

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PUBLISHED BY THE INSTITUTE,
ANNAPOLIS, MD.
1880.

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PRESS OF
CLAREMONT MANUFACTURING COMPANY.

CONSTITUTION.

TITLE.

Article I. The Organization shall be known as the United States Naval Institute.

OBJECT.

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Sec. 2. All officers of the Navy, Marine Corps, and all civil officers attached to the Naval service shall be entitled to become members without ballot, on payment of dues to the Treasurer, or to the Corresponding Secretary on the station. Other persons may become members, on election by ballot, under the rules governing the election of honorary and associate members (see Art. IV, Sec. 6), and on payment of dues; provided that, the number of members not officially connected with the Navy shall not at any time exceed (50) fifty.

Sec. 3. All those who are entitled to become members, may become life members, on payment of thirty dollars. As a reward for extraordinary services to the Institute, or as a mark of honor, the Institute may create life members without payment of dues: nominations for life members must be made by the Executive

ERRATA.

Page x, line 7, for Constable read Constructor.
Page xv, line 13, for "Tenton" read "Trenton".
Page xv, line 3 from bottom, for Bachè read Bache.
Page 41, line 9 from bottom, for controls read control.
Page 53, lines 7, 8 and 10 from bottom, for stem read stern.

PRESS OF
CLAREMONT MANUFACTURING COMPANY.

CONSTITUTION.

TITLE.

ARTICLE I. The Organization shall be known as the United States Naval Institute.

OBJECT.

ART. II. Its object shall be the advancement of professional and scientific knowledge in the Navy.

ORGANIZATION AND OFFICERS.

ART. III. SEC. 1. The officers and permanent committees of the society shall include:—

A President.
A Vice President.
A Secretary.
A Corresponding Secretary. } Executive Committee.
A Treasurer.
A Committee on Publications.
Vice Presidents & Corresponding Secretaries of Branches.

SEC. 2. Special Committees may at any time be appointed by a majority vote of the society to consider questions not properly under the cognizance of the Standing Committees.

MEMBERSHIP.

ART. IV. SEC. 1. The Institute shall consist of members, life members, honorary members and associates.

SEC. 2. All officers of the Navy, Marine Corps, and all civil officers attached to the Naval service shall be entitled to become members without ballot, on payment of dues to the Treasurer, or to the Corresponding Secretary on the station. Other persons may become members, on election by ballot, under the rules governing the election of honorary and associate members (see Art. IV, Sec. 6), and on payment of dues; provided that, the number of members not officially connected with the Navy shall not at any time exceed (50) fifty.

SEC. 3. All those who are entitled to become members, may become life members, on payment of thirty dollars. As a reward for extraordinary services to the Institute, or as a mark of honor, the Institute may create life members without payment of dues: nominations for life members must be made by the Executive

Committee and a majority vote of members shall be required to elect the candidate. The Prize Essayist of each year shall be a life member without payment of dues.

SEC. 4. Honorary members shall be selected from distinguished Naval and Military officers and from eminent men of learning in civil life; provided that the number of such members shall in no case exceed thirty.

SEC. 5. Associates shall be chosen from persons connected with the Naval and Military profession and from persons in civil life who may be interested in the objects that it is the design of the Institute to advance.

SEC. 6. Honorary members and Associates shall be elected as follows: nominations shall be made in writing to the Executive Committee and such nominations, with the name of the member making them, shall be entered on the minutes of the committee. At the succeeding meeting of the Institute, the Committee shall report. If their report be favorable, a majority of the members present shall decide the election; but if unfavorable, a two thirds vote shall be required to elect the candidate. Two members of the Executive Committee shall constitute a quorum for carrying out the requirements of this section.

SEC. 7. The annual assessment for a member shall be three dollars and for an associate one dollar, payable upon joining the Institute and on the first day of each succeeding January.

SEC. 8. Memberships shall be forfeited in cases when the recommendations of the Executive Committee, supported by a two thirds vote of the society, shall so determine, and members two years in arrears shall be dropped. Those who have been dropped from the list of members for being two years in arrears can only regain their membership by paying up their arrears.

NOMINATIONS AND ELECTIONS.

ART. V. SEC. 1. There shall be a meeting of the society on the second Thursday, in January of each year at which all officers shall be chosen, except as provided in Art. VIII. Sec's 6 & 7.

SEC. 2. Members not in attendance may vote by proxy at such elections as well as upon questions relating to the Constitution and By-Laws, but vote by proxy will only be allowed in the two cases herein specified. Life members have full rights with members to vote on any question. Honorary members and associates will not be allowed to vote on any question.

SEC. 3. A majority of votes recorded shall determine choice.

SEC. 4. Members elected to the position of officers of the Society will assume their duties as soon as notified.

SEC. 5. Vacancies may be temporarily filled by the Executive Committee but regular nominations and elections shall follow as soon as practicable.

SEC. 6. All voting for officers shall be by ballot in session of the Society.

DUTIES OF OFFICERS.

ART. VI. SEC. 1. The President, or, in his absence, the Vice President, or in the absence of both, a member of the Executive Committee will preside in Executive session.

SEC. 2. The transaction of all financial, executive or administrative business, in which latter shall be included censorship of papers offered for presentation to the Society, shall be in the hands of the Executive Committee. The Committee will determine for itself its routine of business and form of record.

SEC. 3. The Secretary shall keep a register of the members, a copy of the Constitution and By-Laws, in which he shall note all changes, a journal of the proceedings of the Society, a separate record of the proceedings of the Executive Committee, and a file book in which the reports of Committees shall be entered. These books shall be at all times in readiness for inspection. Papers offered by members unable to be present, if accepted by the Executive Committee, shall be read by the Secretary. He shall give due notice of all meetings of the Society, and shall have control of the stenographer and copyists employed to prepare records of the proceedings.

SEC. 4. The Corresponding Secretary shall attend to all correspondence and keep a record thereof.

SEC. 5. The Treasurer, under the direction of the Executive Committee, shall be the disbursing officer. He shall keep a receipt and expenditure book and an account current with each member. He will submit his books for examination whenever asked for.

SEC. 6. The committee on Publication shall have charge of the printing and publication of all papers and proceedings of the Society.

MEETINGS.

ART. VII. SEC. 1. There shall be a meeting of the society on the second Thursday of each month for the discussion of professional and scientific subjects.

SEC. 2. Special meetings may be called by the Secretary at the request of one or more of the general officers or of standing or special Committees.

SEC. 3. A stenographer shall be employed to keep the record of all proceedings of regular meetings.

SEC. 4. Annually, or as much oftener as the Executive Committee may decide, a record of papers read before the Society and the discussions growing out of them shall be published in pamphlet form. Papers on intricate technical subjects may be published as a part of the proceedings of the Society without being publicly read, if, in the opinion of the Executive Committee, the subject to which they relate be not of a character to be appreciated on merely casual investigation.

BRANCHES.

ART. VIII. SEC. 1. The Executive Committee is empowered to appoint Temporary Corresponding Secretaries for all Naval Stations, both ashore and afloat, where there is no organized Branch; also for Branches where a vacancy exists, owing to the resignation of the Corresponding Secretary before a meeting can be called to elect a successor.

SEC. 2. The officers shall be a Vice President, Corresponding Secretary and an Executive Committee, composed of the Vice President and Secretary ex-officio and one other member.

SEC. 3. The Vice-President of the Branch shall perform the same duty for the Branch as prescribed for the President of the Institute.

SEC. 4. The Corresponding Secretary of a Branch shall keep a register of the members, honorary members and associate members of the Institute residing within the limits of the Station, a copy of the Constitution and By-Laws in which he shall note all changes, and a journal of the proceedings of the Branch. He shall give due notice of all meetings of the Branch, and shall have control of the stenographer and copyist employed to prepare the records of the proceedings. He shall forward to the Corresponding Secretary of the Institute all papers read before his Branch, and shall keep him informed of all new members and their addresses, and of all business, not financial, relating to the Institute. He shall have charge of the library, and of all books and papers, and shall receive and distribute publications. He shall keep a receipt and expenditure book, shall collect dues from all the members on his Station and give receipts therefor. He shall be authorized to expend the funds in his possession for stationery, postage and printing, and for such other expenses as the Executive Committee of his Branch may authorize. He shall, at the end of every month, render to the Treasurer a detailed statement of moneys received, with the names of members from whom received, and shall, at the end of every month, forward to the Treasurer all funds remaining in his hands and vouchers for money expended, retaining sufficient money to defray the current expenses of the Branch.

SEC. 5. Those members of the Institute residing within the limits of a Station where a Branch is established shall be enrolled on the books of the Corresponding Secretary of that Branch during the time of their residence on the Station; they will pay him their dues, keep him informed of their addresses, and receive from him their copies of the publications.

SEC. 6. Monthly meetings of each Branch shall be held upon such dates as the Branch shall decide, and other meetings at the call of its Executive Committee. It shall be the duty of the Executive Committee of the Branch to call an annual meeting for the election of officers of the Institute at a sufficient time prior to the regular meeting of the Institute at Annapolis, for the election of officers, to enable the Corresponding Secretary to forward the votes to the Corresponding Secretary of the Institute. Votes not received at the regular annual meeting of the Institute shall be invalid.

SEC. 7. The officers of a Branch shall be elected for one year at the first annual meeting of the Branch. All voting for officers shall be by ballot in executive session. In the event of the appointment of a Temporary Corresponding Secretary and his acceptance of the appointment, it shall be his duty to call a meeting of all members within the limits of his Station at least one month after his appointment, to organize the Branch, by the election of officers who shall hold office until the regular annual election.

SEC. 8. All papers offered must be submitted for examination to the Executive Committee of the Branch, and if by them accepted they may be read before the Branch and published in the Proceedings. But the Executive Committee of the Institute has a final censorship of all papers before they are published. Papers should be read by authors, or in their absence, by the Corresponding Secretary, unless the author designates a particular person whom he wishes to read the paper.

PAPERS AND PROCEEDINGS.

ART. IX. SEC. 1. The papers and proceedings of the Institute shall constitute assets, and be so borne on the books of the Treasurer and accounted for.

SEC. 2. One copy of the proceedings, when published, shall be furnished to each member, life member, honorary member, and associate member, the Library of the Naval Academy, Corresponding Societies, Congressional Library, Boston Public Library, Library of Harvard University, and Naval Library at Mare Island.

SEC. 3. Back numbers of proceedings shall be furnished to members at a charge which shall be fixed by the Executive Committee. The proceedings may be furnished to non members at a cost ten per cent. higher than that at which they are furnished to members.

SEC. 4. No copies shall be furnished to members who are one year in arrear.

AMENDMENTS.

ART. X. No addition nor amendment to the Constitution and By-Laws shall be made without the assent of two thirds of the members voting. Notice of proposed changes or additions shall be given by the Secretary at least one month before action is taken upon them.

BY-LAWS.

ARTICLE I. The rules of the United States House of Representatives shall, in so far as applicable, govern the parliamentary proceedings of the Society.

ART. II. 1. At both regular and stated meetings the routine of business shall be as follows:

2. At executive meetings, the President, or in his absence the Vice-President, or, in the absence of both, a member of the Executive Committee will call the meeting to order and occupy the chair during the session; in the absence of these, the Society will appoint a chairman.

3. At meetings for presentation of papers and discussion the Society will be called to order as above provided, and a chairman will be appointed by the presiding officer, reference being had to the subject about to be discussed, and an expert in the specialty to which it relates selected.

4. At regular meetings, after the presentation of the paper of the evening, or on the termination of the arguments made by members appointed to, or voluntarily appearing to enter into formal discussion, the chairman will make such review of the paper as he may deem proper. Informal discussion will then be in order, each speaker being allowed not exceeding ten minutes in the aggregate unless by special agreement of the Society. The author of the paper will, in conclusion, be allowed such time in making a résumé of the discussion as he may

deem necessary. The discussion ended, the Chairman will close the proceedings with such remarks as he may be pleased to offer.

5 At the close of the concluding remarks of the Chairman, the Society will go into Executive Session, as hereinbefore provided, for the transaction of business, as follows:

1. Stated business, if there shall be any to be considered.
2. Unfinished business taken up.
3. Reports of Officers or Committees.
4. Applications for membership reported.
5. Correspondence read.
6. Miscellaneous business transacted.
7. New business introduced.
8. Adjournment.

OFFICERS OF THE INSTITUTE.

1880.

PRESIDENT,
REAR-ADMIRAL JOHN RODGERS.

VICE-PRESIDENT,
REAR-ADMIRAL G. B. BALCH.

SECRETARY,
LIEUTENANT C. BELKNAP.

CORRESPONDING SECRETARY,
PROFESSOR C. E. MUNROE.

TREASURER.
CHIEF ENGINEER JAMES P. SPRAGUE.

COMMITTEE ON PUBLICATIONS,
LIEUTENANT JACOB W. MILLER,
SURGEON M. L. RUTH,
LIEUTENANT-COMMANDER P. F. HARRINGTON.

Presidents of the Naval Institute since its organization.

1873. REAR-ADMIRAL J. L. WORDEN.
1874. REAR-ADMIRAL J. L. WORDEN.
1875. REAR-ADMIRAL C. R. P. RODGERS.
1876. REAR-ADMIRAL C. R. P. RODGFRS.
1877. REAR-ADMIRAL C. R. P. RODGERS.
1878. COMMODORE F. A. PARKER.
1879. REAR-ADMIRAL JOHN RODGERS.

BRANCHES.

Washington.

VICE-PRESIDENT,
REAR-ADMIRAL T. A. JENKINS.

CORRESPONDING SECRETARY,
LIEUTENANT E. W. VERY.

New York.

VICE-PRESIDENT,
COMMODORE J. W. A. NICHOLSON.

CORRESPONDING SECRETARY,
LIEUTENANT C. H. STOCKTON.

Norfolk.

VICE-PRESIDENT,
COMMODORE A. K. HUGHES.

CORRESPONDING SECRETARY,
LIEUTENANT E. W. WATSON.

Boston.

VICE-PRESIDENT,
COMMODORE G. M. RANSOM.

CORRESPONDING SECRETARY,
LIEUTENANT E. T. STRONG.

Pacific Station.

VICE-PRESIDENT,
REAR-ADMIRAL C. R. P. RODGERS.

CORRESPONDING SECRETARY,
LIEUTENANT T. B. M. MASON.

North Atlantic Station.

TEMPORARY CORRESPONDING SECRETARY,
LIEUTENANT G. M. TOTTEN.

South Atlantic Station.

TEMPORARY CORRESPONDING SECRETARY,
MASTER H. P. McINTOSH.

LIST OF MEMBERS.

391.

April, 1880.

(Notice.—Members are requested to notify the Secretary if their address is incorrectly given, and also when their address is changed.)

ABBOTT, C. W., PAY DIRECTOR, Navy Yard, Boston.
ACKLEY, S. M., LIEUTENANT, Coast Survey Office.
ADAMS, J. D., " Pensacola, Pacific Station.
ALLDERDICE, W., ENSIGN, Hagerstown, Md.
ALLEN, G. M., ASSISTANT PAYMASTER, Adams, Pacific Station.
ALLEN, L. J., CHIEF ENGINEER, "Marion," Pacific Station.
ALLEN, L. W., PAYMASTER, "Constitution."
ALLEN, W. A. H., PASSED ASSISTANT-ENGINEER, Navy Department.
ALMY, J. J., REAR-ADMIRAL, Navy Department.
AMES, H. E., PASSED ASSISTANT-SURGEON, Navy Yard, Washington.
AMES, S. D., COMMANDER, Light House Inspector, Boston.
AMMEN, D., REAR-ADMIRAL, Beltsville, Md.
AMSDEN, C. H., ENSIGN, Coast Survey Office.
ARMS, F. H., PAYMASTER, Navy Yard, Boston.
ASSERSON, P. C., CIVIL ENGINEER, Navy Yard, Norfolk.
ASTON, A., CHIEF-ENGINEER, Navy Department.
BACON, A. W., PAYMASTER, Rio Janeiro, Brazil.
BAIRD, G. W., PASSED ASS'T-ENGINEER, 409 M St., Washington, D. C.
BAKER, A. C., MASTER, St. Paul, Minn,
BAKER, C. H., CHIEF-ENGINEER, "Richmond," Asiatic Station.
BAKER, S. H., LIEUTENANT-COMMANDER, "Enterprise," Europ'n Stat'n.
BALCH, G. B., REAR-ADMIRAL, Naval Academy.
BARKER, A. S., COMMANDER, Light-House Inspector, New Orleans, La.
BARTLETT, C. W., MASTER, Naval Academy.
BARTLETT, H. A., CAPTAIN U. S. M. C. Navy Department.
BARTON, J. Q., PASSED ASS'T-PAYMASTER, "Nipsic," N. Atlantic St'n.
BASSETT, F. S., LIEUTENANT, Aledo, Mercer Co., Illinois.
BATCHELLER, O. A., COMMANDER. Navy Yard, Boston.
BATES, M. L., SURGEON. Navy Department.
BEARDSLEE, L. A., COMMANDER. "Jamestown", Pacific Station.
BEAUMONT, H. N., SURGEON. "Marion," Pacific Station.

BEAUMONT, T. C., COMMODORE. Navy Yard, Portsmouth.
BELKNAP, C., LIEUTENANT. Naval Academy.
BERRY, R. M., LIEUTENANT. "Saratoga," Washington.
BERWIND, E. J., MASTER. 52 Broadway, New York.
BIXLER, L. E., LIEUTENANT. "Kearsarge," N. Atlantic Station.
BOLLES, T. D., LIEUTENANT. Naval Observatory.
BOUSH, G. R., NAVAL CONSTABLE. Navy Yard, New York.
BOWMAN, C. G., LIEUTENANT. "Adams," Pacific Station.
BOYD, A. A., LIEUTENANT. "Marion," Pacific Station.
BRADBURY, C. A., LIEUTENANT. Navy Yard, Washington.
BRADFORD, R. B., LIEUTENANT-COMMANDER. Torpedo Station.
BREESE, K. R., CAPTAIN. "Pensacola," Pacific Station.
BRIDGMAN, W. R., COMMANDER. Light House Insp., Buffalo, N. Y.
BROOME, J. L., MAJOR, U. S. M. C. Norfolk Navy Yard.
BROSNAHAN, T. G., P. A. ENGINEER. "Marion," Pacific Station.
BROWN, R. M. G., LIEUTENANT. "Alarm," New York.
BROWN, S. A., S. A. SURGEON. "Pensacola," Pacific Station.
BROWNE, S. T., PAYMASTER. "Powhatan," North Atlantic Station.
BROWNSON, W. H., LIEUTENANT. Naval Academy.
BRUSH, G. R., SURGEON. "Colorado," New York.
BRYAN, B. C., C.-ENGINEER. "Kearsarge," North Atlantic Station.
BUCKINGHAM, B. H., LIEUTENANT. "Monocacy," Asiatic Station.
BUEHLER, W. G., CHIEF ENGINEER. "Powhatan," N. Atlantic Station.
BUFORD, M. B., LIEUTENANT. Navy Yard, Washington.
BULL, J. H., MASTER. "Franklin," Norfolk.
BUNCE, F. M., COMMANDER. "Marion," Pacific Station.
BURGDOFF, T. F., ASSISTANT ENGINEER. "Nipsic," N. Atlantic Station.
BYRNES, J. C., ASSISTANT SURGEON. Naval Hospital, Chelsea, Mass.
CALDWELL, A. G., LIEUTENANT-COMMANDER. Torpedo Station.
CARMODY, J. R., PAYMASTER. Mohawk, Herkimer Co., N. Y.
CARR, C. A., CHIEF ENGINEER. "Kearsarge," North Atlantic Station.
CARTER, S. P., COMMODORE. 1316 Connecticut Ave., Washington.
CHADWICK, F. E., LIEUTENANT-COMMANDER. Navy Yard, New York.
CHAMBERS, W. I., ENSIGN. "Marion," Pacific Station.
CHESTER, C. M., LIEUTENANT-COMMANDER. Coast Survey, Stmr. Bache.
CLARK, C. E., LIEUTENANT-COMMANDER. Navy Yard, Boston.
CLASON, W. P., MASTER. "Adams," Pacific Station.
CLINE, H. H., P. A. ENGINEER. "Swatara," Asiatic Station.
COFFIN, J. H. C., PROFESSOR. 1901 I Street, Washington.
COLLINS, F., LIEUTENANT. Saratoga, Washington.
COLLUM, R. S., CAPTAIN U. S. M. C. Navy Department, Washington.
COOKE, A. P., COMMANDER. Navy Yard, Mare Island.
COURTIS, F., LIEUTENANT. Care Navy Pay Office, San Francisco.
COWLES, W., ASSISTANT ENGINEER. "Tennessee," N. Atlantic Station.
CRAIG, J. E., LIEUTENANT. "Alaska," Pacific Station.
CUTTER, G. F., PAYMASTER-GENERAL. Navy Department.
DANENHOWER, J. W., MASTER. 107 Greene Street, Georgetown, D. C.

DE KRAFT, J. C. P., CAPTAIN. Navy Department.
DELEHANTY, D., LIEUTENANT. Naval Academy.
DERBY, R. C., LIEUTENANT. "Vandalia," North Atlantic Station.
DE VALIN, C. E., CHIEF ENGINEER. "Colorado," New York.
DEWEY, G., COMMANDER. Light House Board.
DICKENS, F. W., LIEUTENANT-COMMANDER. Naval Academy.
DORN, E. J., ENSIGN. "Colorado," New York.
DRAKE, F. J., LIEUTENANT. "Ticonderoga."
DYER, G. L., LIEUTENANT. Naval Academy.
DYER, N. M., LIEUTENANT-COMMANDER. "Wabash," Boston.
EASBY, J. W., CHIEF CONSTRUCTOR. Navy Department.
EASTMAN, J. R., PROFESSOR. Naval Observatory.
ELMER, H., LIEUTENANT-COMMANDER. "Kearsarge," North Atlantic.
EMORY, W. H., LIEUTENANT. 1720 H Street, Washington.
ENGLISH, E., CAPTAIN. Navy Department.
ETTING, T. M., ESQ. 2021 Chestnut Street, Philadelphia.
EVANS, R. D., COMMANDER. "Saratoga," Washington.
EVERETT, W. H., LIEUTENANT. Navy Yard, New York.
FARQUHAR, N. H., COMMANDER. "Quinnebaug," European Station.
FEBIGER, J. C., COMMODORE. Navy Yard, Washington.
FIELD, W. L., LIEUTENANT. Light House Office, New York.
FILLEBROWN, T. S., CAPTAIN. Navy Department.
FITCH, H. W., CHIEF ENGINEER. Navy Department.
FLYNNE, L., ENSIGN. Pensacola, Pacific Station.
FOLGER, W. M., LIEUTENANT-COMMANDER. "Swatara," Asiatic Station.
FORD, J. D., PASSED ASST. ENGINEER. "Tennessee," N. Atlantic Station.
FORNEY, J., CAPT. U. S. M. C. 618 S. Washington Square, Philadelphia.
FOSTER, C. A., MASTER. Navy Yard, Pensacola.
FRANKLIN, J., LIEUTENANT. Arlington House, Washington.
FRANKLIN, S. R., CAPTAIN. Hydrographic Office.
FRISBY, E., PROFESSOR. Naval Observatory.
FYFFE, J., CAPTAIN. Navy Yard, League Island.
GALLOWAY, C. D., MASTER. "Saratoga," Washington.
GALT, R. W., ASSISTANT ENGINEER. Brandon, Va.
GARDNER, T. M., LIEUTENANT-COMMANDER. "Onward," Pacific Station.
GARVIN, J., LIEUTENANT. "Pensacola," Pacific Station.
GEARING, H. C., ENSIGN. "Marion," Pacific Station.
GIBBS, B. F., MEDICAL INSPECTOR. 1416 Q Street, Washington.
GIBSON, W., COMMANDER. 1518 H Street, Washington.
GIBSON, W. C., LIEUTENANT. Navy Yard, New York.
GILL, W. A., C.-MIDN. "Kearsarge," North Atlantic Station.
GILMORE, F. P., LIEUTENANT. "Swatara," Asiatic Station.
GLENNON, J. H., C.-MIDN. "Pensacola," Pacific Station.
GOODRICH, C. F., LIEUTENANT-COMMAMDER. Torpedo Station.
GORGAS, A. C., MEDICAL INSPECTOR. Naval Academy.
GORRINGE, H. H., LIEUTENANT-COMMANDER. London, England.
GRAHAM, J. D., COMMANDER. Navy Yard, Washington.

GREEN, H. L., MASTER. "Saratoga," Washington.
GREENE, B. F., PROFESSOR. Navy Department.
GREENE, S. D., COMMANDER. Naval Academy.
GREENLEAF, C. H., PASSED ASST. ENG. 723 14th Street, Washington.
GRIMES, J. M., LIEUTENANT. Navy Yard, New York.
GUNNELL, F. M., MEDICAL DIRECTOR. "Richmond," Asiatic Station.
HADDEN, W. A., LIEUTENANT. Navy Yard, Washington.
HALL, A., PROFESSOR. Naval Observatory.
HANFORD, F., LIEUTENANT. "Colorado," New York.
HANSCOM, J. F., ASSISTANT NAVAL CONST. Navy Yard, Boston.
HARBER, G. B., LIEUTENANT. "Tennessee," North Atlantic Station.
HARKNESS, W., PROFESSOR. Naval Observatory.
HARRINGTON, P. F., LIEUTENANT-COMMANDER. Naval Academy.
HARWOOD, A. A., REAR-ADMIRAL, 1800 F St., Washington.
HAWLEY, J. M., LIEUTENANT, Coast Survey Office.
HAYDEN, E. E., CADET-MIDSHIPMAN, "Kearsarge," N. Atlantic Station.
HEALD, E. D. F., LIEUTENANT, Naval Academy.
HEMPHILL, J. M., LIEUTENANT, Naval Observatory.
HENDERSON, A., CHIEF-ENGINEER, "Trenton," European Station.
HERWIG, H., ASSISTANT-ENGINEER, 1707 Penn Ave., Washington.
HIGGINSON, F. J., COMMANDER, Despatch, European Station.
HITCHCOCK, R. D., LIEUTENANT, Navy Yard, Washington.
HODGSON, A. C., ENSIGN, Athens, Georgia.
HOGG, W. S., MIDSHIPMAN, "Alarm," New York.
HOLDEN, E. S., PROFESSOR, Naval Observatory.
HOLMAN, G. F. W., MASTER, "Saratoga," Washington.
HOWARD, T. B., ENSIGN, "Kearsarge," North Atlantic Station.
HOWISON, H. L., COMMANDER, Navy Yard, Washington.
HUGHES, A. K., COMMODORE, Navy Yard, Norfolk.
HUNTER, H. C., LIEUTENANT. "Alert," Asiatic Station.
HUSE, H. Mc. L. P., C.-MIDSHIPMAN. Pensacola, Pacific Station.
HUTCHINS, C. T., LIEUTENANT. Navy Yard, Washington.
IDE, G. E., LIEUTENANT. Alliance, European Station.
INGERSOLL, R. R., LIEUTENANT. "Pensacola," Pacific Station.
IRWIN, W. M., MASTER. "Michigan."
IVERSON, A. J. LIEUTENANT. Boston Navy Yard.
JACKSON, S., MEDICAL DIRECTOR. Boston, Mass.
JACOBY, H. M., MASTER. Coast Survey Office.
JAQUES, W. H., LIEUTENANT. 25 Halleck St., Newark, N. J.
JASPER, R. T., LIEUTENANT. Naval Academy.
JEFFERS. W. N., COMMODORE. Naval Department.
JENKINS, T. A., REAR ADMIRAL. 2115 Pennsylvania Ave., Washington.
JEWELL, T. F., LIEUTENANT COMMANDER. Coast Survey steamer Gedney.
JOHNSON, A. W., CAPTAIN. Navy Department.
JONES, D., P. A. ENGINEER. "Nipsic," Atlantic Station.
JONES, J. H., LIEUTENANT COLONEL, M. C. Navy Yard, Boston.
JONES, M. D., PASSED-ASSISTANT SURGEON. Naval Academy.

JONES, W. H., SURGEON. Naval Hospital, New York.
JOUETT, J. E., CAPTAIN. Navy Department.
JUDD, C. H., LIEUTENANT. Hydrographic Office.
KAFER, J. C., PASSED-ASSISTANT ENGINEER. Naval Academy.
KARNEY, T., LIBRARIAN. Naval Academy.
KEARNY, G. H., PASSED-ASSISTANT ENGINEER. Naval Academy.
KEELER, J. D., LIEUTENANT. Hydrographic Office.
KELLY, J. D. J., LIEUTENANT.
KENNEDY, D., LIEUTENANT. "Pensacola." Pacific Station.
KIRBY, A., PAST-ASSISTANT ENGINEER. Navy Yard, Washington.
KNAPP, H. S., C.-MIDSHIPMAN. Pensacola, Pacific Station.
KNOX, H., LIEUTENANT. "Adams," Pacific Station.
LAMBDIN, W. J., CHIEF ENGINEER. "Shenandoah," S. Atlantic Station.
LAW, R. L., CAPTAIN. Navy Department.
LAWRENCE, J. P. S., ASST. ENGINEER. "Pensacola" Pacific Station.
LEACH, B., MASTER, "Constitution."
LEARY, R. P., LIEUTENANT-COMMANDER. Pensacola, Pacific Station.
LEE, S. P., REAR-ADMIRAL. 1653 Penn. Ave., Washington.
LEITCH, R. R., ASSISTANT-ENGINEER. 1707 Penn. Ave., Washington.
LENTHALL, J., NAVAL CONSTRUCTOR. 1818 F. St., Washington.
LEROY, W. E., REAR-ADMIRAL. New York Hotel, New York.
LILLIE, A. B. H., LIEUTENANT. "Nipsic," N. Atlantic Station.
LITTLE, W., LIEUTENANT. Minnesota, New London.
LITTLE, W. Mc C., LIEUTENANT. Navy Yard, New York.
LLOYD, E. jr., C.-MIDSHIPMAN. "Pensacola," Pacific Station.
LONGNECKER, E., LIEUTENANT. Naval Observatory.
LORING, C. H., CHIEF ENGINEER. Navy Yard, New York.
LULL, E. P., COMMANDER. Coast Survey Office.
LYETH, C. H., MASTER. Navy Yard, New York.
LYON, H. W., LIEUTENANT. 34 Monument Square, Charlestown, Mass.
MACKENZIE, M. R. S., LIEUTENANT. Naval Academy.
MAHAN, A. T., COMMANDER. Naval Academy.
MANNING, C. H., PASSED-ASSISTANT ENGINEER. Naval Academy.
MANSFIELD H. B., LIEUTENANT. Navy Yard, New York.
MASON, T. B. M., LIEUTENANT. "Pensacola," Pacific Station.
MATTHEWS, E. O., COMMANDER. Navy Yard, New York.
MC ALLISTER, A. A., CHAPLAIN. Pensacola, Pacific Station.
MC CANN, W. P., CAPTAIN. Navy Yard, Mare Island.
MC CARTNEY, C. M., ENSIGN. "Nipsic," N. Atlantic Station.
MC CARTNEY, D. P., PASSED-ASST. ENGINEER. Navy Yard, Washington.
MC COOK, R. S., COMMANDER. Navy Yard, New York.
MC CORMICK, A. H., COMMANDER. Navy Department.
MC CRACKIN, A., LIEUTENANT. Naval Academy.
MC GOWAN J. jr., LIEUTENANT COMMANDER. Marion, Pacific Station.
MC GREGOR, C., COMMANDER. Navy Yard, Boston.
MC INTOSH, H. P., MASTER. Shenandoah, S. Atlantic Station.
MC LANE, ALLAN, ESQ. Washington, D. C.

MC LEAN, T. C., LIEUTENANT. "Trenton,"European Station.
MC MAIR, F. V.,COMMANDER. Naval Academy.
MC NARY, I. R., CHIEF ENGINEER. Kearsarge," N. Atlantic Station.
MC RITCHIE, D. G., LIEUTENANT. "Tallapoosa," N. Atlantic Station.
MEAD, W. W., LIEUTENANT. 58 W. 5th St. Covington, Ky.
MEIGS, J. F., LIEUTENANT. "Pensacola," S. Pacific Station.
MENOCAL, A. G., CIVIL ENGINEER. Navy Yard, Washington.
MERRELL, J. P., LIEUTENANT. "Marion," Pacific Station.
MILES, C. R., MASTER. Naval Academy.
MILLER, F. A., LIEUTENANT. "Ticonderoga."
MILLER, J. M., LIEUTENANT. "Constitution."
MILLER, JACOB W., LIEUTENANT. Naval Academy.
MOORE, J. H., LIEUTENANT. "Constitution."
MOORE, J. W., CHIEF ENGINEER. Board of Inspectors, Navy Dept.
MOORE, W. I., LIEUTENANT. "Marion," Pacific Station.
MUNROE, C. E., PROFESSOR. Naval Academy.
MURDOCK, J. B., LIEUTENANT. "Constitution."
MUSE, W. S., 1ST LIEUT. U. S. M. C. Artillery School, Fortress Monroe.
NAZRO, A. P., LIEUTENANT. "Constitution."
NELSON, H. C., MEDICAL INSPECTOR. "Pensacola," Pacific Station.
NELSON, T., LIEUTENANT COMMANDER. 1419 Q Street, Washington.
NEWCOMB, S., PROFESSOR. Nautical Almanac Office.
NEWELL, H., CHIEF ENGINEER. Navy Yard, Norfolk.
NICHOLS, H. E., LIEUTENANT. Coast Survey Office, Washington.
NICHOLS, S. W., COMMANDER. Navy Yard, Boston.
NICHOLSON, J. W. A., COMMODORE. Navy Yard, New York.
NICHOLSON, R. F., ENSIGN. "Portsmouth," Washington.
NICKELS, J. A. H., LIEUTENANT. Boston, Mass.
NICOLL, W. L., PAST ASSISTANT ENGINEER. Trenton, N. J.
NORRIS, G. A., LIEUTENANT. Navy Yard, New York.
NORTON, C. F., LIEUTENANT. "Nipsic," North Atlantic Station.
NORTON, C. S., COMMANDER. Light House Insp., Charleston S. C.
NOSTRAND, W. H., ENSIGN. Coast Survey Office.
NOURSE, J. E., PROFESSOR. Naval Observatory.
NOYES, B., LIEUTENANT. P. O. Box 2280, New York City.
O'NEIL, C., LIEUTENANT-COMMANDER. Navy Yard, Boston.
OSTERHAUS, H., MASTER. Coast Survey Office.
PAINE, F. H., LIEUTENANT. "Trenton", European Station.
PAINE, S. C., LIEUTENANT. Naval Academy.
PARKER, J. B., SURGEON. "Wachusett," South Atlantic Station.
PARKER, W. H., LIEUTENANT. Naval Academy.
PATCH, N. J. K., LIEUTENANT. "Richmond", Asiatic Station.
PAUL, A. G., LIEUTENANT. "Powhatan", North Atlantic Station.
PAUL, H. M., ASTRONOMER. Naval Observatory.
PECK, G., MEDICAL DIRECTOR. Navy Department.
PECK, R. B., LIEUTENANT. "Pensacola," Pacific Station.
PENDLETON, C. H., LT.-COMD'R. 126 W. Madison St., Baltimore, Md.

PENDLETON, E. C., LIEUTENANT. "Swatara," Asiatic Station.
PERKINS, G. H., COMMANDER. Concord, N. H.
PERKINS, H., LIEUTENANT. "Vandalia," North Atlantic Station.
PERRY, T., LIEUTENANT. "Swatara," Asiatic Station.
PHILLIPPI, E. T., PAST ASSISTANT ENGINEER. Asiatic Station.
PHYTHIAN, R. L., COMMANDER. 935 K Street, Washington.
PICKING, H. F., COMMANDER. "Kearsarge," North Atlantic Station.
PIGMAN, G. W., LT.-COMMANDER. "Wachusett," South Atlantic Station.
PILLSBURY, J. E., LIEUTENANT. 76 Boylston Street, Boston, Mass.
PLATT, R., MASTER. Boston, Mass.
POOK, S. H., NAVAL CONSTRUCTOR. Navy Yard, Boston.
PRINDLE, J. C., CIVIL ENGINEER. Navy Yard, New York.
QUEEN, W. W., CAPTAIN. "Tenton," European Station.
RAE, T. W., ESQ. 46 Queen Victoria Street, London, E. C., Eng.
RANSOM, G. M., COMMODORE. Navy Yard, Boston.
READ, G. A., PAST ASSISTANT PAYMASTER. Navy Department.
READ, J. J. COMMANDER. Light House Insp., St. Louis, Mo.
REAMEY, L. L., MASTER. Hydrographic Office.
REES, C. P., MASTER. Naval Academy.
REEVES, I. S. K., ASSISTANT ENGINEER. "Adams," Pacific Station.
REISINGER, W. W., LIEUTENANT. 1209 13th Street, Washington.
REITER, G. C., LIEUTENANT. Light House Office, Portland, Oregon.
REMEY, E. W., LIEUTENANT. "Trenton," European Station.
REMEY, W. B., CAPTAIN U. S. M. C. Navy Department.
RHOADES, W. W., LIEUTENANT. Anacostia P. O., D. C.
RICE, J. M., PROFESSOR. Naval Academy.
ROBESON, H. B., COMMANDER. Naval Academy.
ROBIE, E. D., CHIEF ENGINEER. "Pensacola," Pacific Station.
ROBINSON, L. W., PASSED ASSISTANT ENGINEER. Naval Academy.
RODGERS, C. R. P., REAR ADMIRAL. "Pensacola," Pacific Station.
RODGERS, J., REAR ADMIRAL. Naval Observatory.
RODGERS, W. L., CADET-MIDSHIPMAN. "Pensacola," Pacific Station.
ROELKER, C. R., PASSED ASSISTANT ENGINEER. Navy Department.
ROSS, A., LIEUTENANT. Annapolis, Md.
ROWAN, S. C., VICE ADMIRAL. Navy Department.
RUSH, R., LIEUTENANT. Naval Academy.
RUSSELL, B. R., 1ST LIEUT. U. S. M. C. "Minnesota," New London, Ct.
RUTH, M. L., PASSED ASSISTANT SURGEON. Naval Academy.
SAMPSON, W. T., COMMANDER. "Swatara," Asiatic Station.
SANDS, B. F., REAR ADMIRAL. 816 15th Street, Washington.
SARGENT, N., MASTER. "Portsmouth," Washington.
SAWYER, F. E., MASTER. Coast Survey Office.
SCHOULER, J., LIEUT.-COMMANDER. Arlington House, Washington.
SCHROEDER, S., LIEUTENANT. Hydrographic Office.
SEBREE, U., LIEUTENANT. Coast Survey Steamer "Bachè."
SELFRIDGE, J. R., LIEUTENANT. Navy Yard, Washington.
SELFRIDGE, T. O., REAR-ADMIRAL. 2013, I St. Washington.

SHAW, C. P., LIEUTENANT. Hydrographic Office.
SHEPARD, E. M., COMMANDER. Naval Academy.
SHOCK, W. H., ENGINEER IN CHIEF. Navy Department.
SICARD, M., COMMANDER. Navy Yard, Boston.
SIGSBEE, C. D., LT.-COMMANDER. 72, West St., Georgetown, D. C.
SIMPSON, E., COMMODORE. Naval Station, New London.
SKERRETT, J. S., CAPTAIN. Light-House Inspector, Portland, Me.
SKINNER, A. N., ASTRONOMER. Naval Observatory.
SLACK, W. H., MASTER. "Saratoga," Washington.
SLOANE, J. D., ASSISTANT ENGINEER. "Kearsarge," N. Atlantic Station.
SMITH, D., CHIEF ENGINEER. "Nipsic," North Atlantic Station.
SMITH, J. A., PAYMASTER. Navy Pay Office, Washington.
SMITH, W. D., PASSED-ASSIST. ENGINEER. Navy Yard, Norfolk.
SNYDER, H. L., CHIEF-ENGINEER. Navy Yard, New York.
SOLEY, J. C., LIEUTENANT. Naval Academy.
SOLEY, J. R., PROFESSOR. Naval Academy.
SOUTHERLAND, W. H. H. MASTER. "Kearsarge," N. Atlantic Station.
SPEEL, J. N., PASSED-ASSISTANT PAYMASTER. New London, Conn.
SPERRY, C. S., LIEUTENANT. "Richmond," Asiatic Station.
SPEYERS, A. B., LIEUTENANT. Naval Academy.
SPRAGUE, J. P., CHIEF ENGINEER. Naval Academy.
STANTON, J. R., P.-A. PAYMASTER. "Kearsarge," North Atlantic Station.
STANTON, O. F., CAPTAIN. "Constitution."
STAUNTON, S. A., MASTER. "Swatara," Asiatic Station.
STEPHENSON, F. B., P.-A. SURG., "Shenandoah," South Atlantic Station.
STEVENS, T. H., COMMODORE. Navy Department.
STOCKTON, C. H., LIEUTENANT. Navy Yard, New York.
STOCKTON, H. T., LIEUTENANT. London, England.
STRONG, E. T., LIEUTENANT. Navy Yard, Boston.
STRONG, W. C., LIEUTENANT. "Enterprise," European Station.
TANNER, Z. L., LIEUTENANT. Hydrographic Office.
TAUSSIG, E. D., LIEUTENANT. 1219, Dolman St., St. Louis, Mo.
TAYLOR, H. C., LIEUTENANT-COMMANDER. Navy Yard, Washington.
TERRELL, T. C., LIEUTENANT. "Constitution."
TERRY, E., COMMANDER. "Pensacola," Pacific Station.
TERRY, N. M., PROFESSOR. Naval Academy.
THACKARA, A. M., LIEUTENANT. Navy Yard, Washington.
THOMAS, C., MASTER. Nautical Almanac Office.
THOMAS, C. M., LIEUTENANT. "Constitution."
THOMAS, E. B., LIEUTENANT. Coast Survey Office.
TILLEY, B. F., LIEUTENANT. Naval Academy.
TILLMAN, E. H. C.-MIDSHIPMAN. "Shenandoah, South Atlantic Station.
TILTON. Mc L., CAPTAIN M. C. Annapolis, Md.
TOTTEN, G. M., LIEUTENANT. "Tennessee," North Atlantic Station.
TRAIN, C. J., LIEUTENANT-COMMANDER. Naval Academy.
TRIBOU, D. H., CHAPLAIN. Navy Yard, Boston.
TRILLEY, J., CHIEF ENGINEER. "Wabash," Boston.

TRUXTUN, W. T., CAPTAIN. Navy Yard, Norfolk.
TRYON, J. R., SURGEON. Sturdevant House, New York.
TURNER, T. J., MED. INSPECTOR. Navy Department.
TURNER. W. H., LIEUTENANT. Navy Yard, Portsmouth.
TYLER, G. W., LIEUTENANT. Naval Academy.
UPSHUR, J. H., CAPTAIN. 1721, Rhode Island Ave., Washington.
VERY, E. W., LIEUTENANT. Navy Signal Office.
VREELAND, C. E., MASTER. "Ticonderoga."
WADHAMS, A. V., LIEUTENANT. "Nipsic," European Station.
WARD, A., MASTER. "Constitution."
WARING, H. S., MASTER. "Saratoga," Washington.
WASHINGTON, R., PAY INSPECTOR. "Richmond," Asiatic Station.
WATSON, E. W. LIEUTENANT. Navy Yard, Norfolk.
WEBB, T. E., NAVAL CONSTRUCTOR. Navy Yard, New York.
WELLS, C. H., CAPTAIN. Navy Department.
WELLS, H., PASSED ASSISTANT SURGEON. Naval Hospital, Norfolk.
WEST, C. H. LIEUTENANT. "Alliance," North Atlantic Station.
WHITE, U. S. G., CIVIL ENGINEER. Navy Yard, Boston.
WILLIAMS, W. W., PAY INSPECTOR. Navy Yard, Washington.
WILSON, D. L. MASTER. 53, Bridge St., Georgetown, D. C.
WILSON, J. C., LIEUTENANT. "Tennessee," North Atlantic Station.
WINDSOR, W. A., P.-A. ENGNR. "Kearsarge," North Atlantic Station.
WINSLOW, F., MASTER. 104, Chestnut St., Boston, Mass.
WISE, F. M., LIEUTENANT. Naval Academy.
WOOD, E. P., LIEUTENANT. "Enterprise," European Station.
WOOLVERTON, T., SURGEON. "Powhatan," North Atlantic Station.
WORDEN, J. L., REAR-ADMIRAL. 1428, K. St., Washington.
WRIGHT, A. H., LIEUT.-COMMANDER. 23, Jenning's Ave., Cleveland, O.
WYMAN, R. H., REAR-ADMIRAL. "Tennessee," North Atlantic Station.
YATES, I. I., LIEUTENANT. "Pensacola," Pacific Station.
ZANE, A. V., ASSISTANT ENGINEER. Naval Academy.

LIFE MEMBERS,—2.

COMMANDER A. D. BROWN. Naval Academy.
HON. R. B. FORBES, Milton, Mass.

HONORARY MEMBERS,—5.

CHIEF JUSTICE C. P. DALY, American Geographical Society, 11 West Twenty-ninth Street, New York.
C. W. ELIOT, LLD., PRESIDENT, Harvard University, Cambridge, Mass.
CAPTAIN J. ERICSSON, 36 Beach Street, New York.
C. P. PATTERSON, LLD., SUPERINTENDENT. Coast Survey.
HON. R. W. THOMPSON, Secretary of the Navy.

ASSOCIATE MEMBERS,—17.

ACKLAND, W. A. D., COMDR. R. N. H. B. M. S. Triumph, Pacific Station.
BAILEY, N. P., ESQ. 11 West Twenty-eighth Street, New York.
BATTEN, A. W. C., LIEUT. R. N. H. B. M. S. Triumph, Pacific Station.
BRENTON, R. O. B. C., LIEUT. R. N. " "
BOUTELLE, C. O., ASSISTANT COAST SURVEY. Norfolk, Va.
BROOKE, J. M., ESQ. Virginia Military Institute.
CHASE, LESLIE, ESQ. 30 Broad Street, New York.
DORR, E. P., ESQ. Buffalo, N. Y.
FORSTER, E. J., DR. Charlestown, Mass.
HOFFMAN, J. W., ESQ. 259 South 17th Street, Philadelphia, Pa.
HUNT, W. P., ESQ. South Boston Iron Works.
METCALFE, H., CAPTAIN U. S. A. Frankford Arsenal, Philadelphia, Pa.
MILLER, H. W., ESQ. Morristown, N. J.
MYERS, T. B., ESQ. 4 West 34th Street, New York.
NORDHOFF, C., ESQ. Alpine, Bergen Co., N. J.
PEGRAM, J. C., ESQ. 43 North Main Street, Providence, R. I.
ROOSEVELT, N. L., ESQ. 14 Waverley Place, N. Y.

DEATHS,—3.

COMMODORE F. A. PARKER, June 10, 1879.
COMMANDER CHESTER HATFIELD, December 15, 1879.
MEDICAL DIRECTOR J. W. TAYLOR, January 19, 1880.

CORRESPONDING SOCIETIES.

American Geographical Society.
Association Parisienne des Propriétaires d'Appareils à Vapeur.
Société des Ingénieurs Civils.
American Institute of Mining Engineers.
U. S. Military Service Institution.
American Society of Civil Engineers.

SECRETARY'S REPORT.

U. S. NAVAL INSTITUTE.
Annapolis, Md., Jan'y 8th, 1880.

During the past year, the affairs of the Institute may be said to have met with unvarying success. The membership has increased until it now amounts to members, 368; honorary members, life members, and associate members, 14; and the establishment of the Branches attests the interest felt by officers, and their appreciation of the privileges and advantages of debate. The total number of papers presented during the year was twenty-four, of which the Executive Committee, exercising a just though not rigid censorship, have printed twenty. A number of professional papers on topics of general interest have been inserted, which, for various reasons, were not read at any meetings.

The notices of the Prize Essay on Naval Education were responded to by the presentation of ten essays for competition, a fact that cannot fail to be gratifying to those who initiated the movement. The judges selected were President Eliot, of Harvard University, Rear Admiral Ammen, of the Navy, and Engineer-in-Chief Shock, of the Navy. The judges were requested to name the most distinguished paper, and two others which they considered most worthy of comment. Their onerous task was accomplished with a skill and delicacy which, while it conferred high honors on the successful contestants, gilded the bitter pill of failure for the others.

The wisdom of the Institute in establishing its annual prize is also shown in the spirited discussions which took place, both in the Institute and in the public prints, proving that the Prize had been the means of stirring up many minds to thinking very seriously on a question of great professional importance.

The subject of the Essay for 1880 was recommended by a committee of officers and approved by the Institute. The Naval Policy of the United States. The judges selected by the Executive Committee, are Hon. Wm. M. Evarts, Secretary of State, Hon. R. W. Thompson, Secretary of the Navy, and Hon. J. R. Mc Pherson, Senator. Eight es-

says have been presented, which were forwarded to the judges on the seventh of January. The judges have been requested to specify only the most deserving essay.

From a pecuniary point of view, it is desirable to diminish somewhat, the number of papers, and at the same time to increase the interest felt by members, in *participation* in the proceedings. I therefore recommend that a plan of general discussion on the same subject, in the Institute and its Branches at the same time, be adopted by the Executive Committee, so that original papers may be presented in certain months, and general discussion on fixed professional subjects take place on the alternate months.

JOHN C. SOLEY, Secretary.

TREASURER'S REPORT.

U. S. NAVAL INSTITUTE.
Annapolis, Md., Jan'y 7th, 1880.

GENTLEMEN:

I beg leave to submit the enclosed report of the receipts and expenditures of the Institute, from Jan'y 7, 1879, to Jan'y 7, 1880; and in connection therewith, I would state that there are 378 names borne on the books of the Treasurer, 10 of which are over two years in arrears; and by the Constitution will be dropped from this date; thus leaving

368 paying members, at $ 3.00	$ 1,104
7 associate " " 1.00	7
giving a total income of	$ 1,111

There is now in the printer's hands work to the amount of (probably) nearly $ 300.00. And there is the coming "Prize Essay" and Medal to provide for, to the amount of $ 150.00; which will leave in hand only about $ 75.00 of the $ 525.70 shown in the tabulated report.

It will be seen that during the year past the amount expended for printing, (when paid for) will be nearly $ 1,185.00, which amounts to nearly the whole income of the Institute; leaving comparatively nothing for other expenses; the only way this was provided for in 1879, was by the surplus which had accumulated, on account of the yearly dues being $ 5.00 (instead of $ 3.00), and the small number of papers printed in previous years; it is therefore evident that, on account of the reduction of the yearly dues, and the greatly increased number of papers offered, (the number of members having largely increased) there must be some rule in regard to what papers shall be published; as it will be impossible to print, hereafter, as many as were printed in 1879, because during this year some $ 350.00 was expended for this purpose, *more* than the present income of the Institute will warrant.

Respectfully,

JAMES P. SPRAGUE,
Treasurer U. S. N. I.

Amounts Received

by the Treasurer of the U. S. Naval Institute, from Jan'y 7th, 1879, to Jan'y 7th, 1880, inclusive.

From the former Treasurer, W. T. Sampson,	$439 34
For dues received at Annapolis,	644 85
" dues received from Wash't'n Branch, J. H. Moore, Sec'y,	505 00
" " " " " " E. W. Very, Sec'y,	21 00
" " " " Norfolk Branch, W. E. Watson, Sec'y,	51 00
" " " " Norfolk, per J. H. Moore,	51 00
" " " " New York Branch, C. H. Stockton,	78 00
" " " " Lieut. Mc Intosh, Cor. Sec'y,	9 00
" Proceedings, Papers &c.,	16 25
	$1,815 44

Amounts Expended.

Bills paid for Printing Committee,	$885 62
Am't paid for "Prize Essay" and Medal, A. D. Brown,	150 00
For postage on Proceedings, Stamps and Wrappers,	93 95
" freight on Proceedings and Papers,	36 30
" Paper, Envelopes and Blank Books,	25 15
" Expenses of Wash't'n Branch as per acc't rendered,	66 45
" " " Norfolk " " " " "	6 77
" " " New York " " " " "	10 50
" Services of I. Glynn, to former Secretary and Treasurer,	15 00
	$1,289 74
Cash in hands of Treasurer to balance,	525 70
	$1,815 44

Note—Jan'y 20th, 1880. Since the Annual Report the number of members has been increased by thirty-nine; as follows:

Associate members 10, Boston Branch 21, South Pacific 17, Annapolis 1, total, 49.